

PUMP STATION 196

Sep-21		PS 196		
		METER READING	24 HOUR FLOW	Lewes flow in Yellow
WED	1	75443410	0.131060	
THU	2	75574470	0.138546	
FRI	3	75713016	0.125314	turned 196 back to
SAT	4	75838330	0.152400	Lewes 8/3 at 9:30 am
SUN	5	75990730	0.154990	
MON	6	76145720	0.153580	
TUE	7	76299300	0.135090	
WED	8	76434390	0.122920	
THU	9	76557310	0.138030	
FRI	10	76695340	0.123680	
SAT	11	76819020	0.131490	
SUN	12	76950510	0.138990	
MON	13	77089500	0.127440	
TUE	14	77216940	0.115810	
WED	15	77332750	0.118290	
THU	16	77451040	0.117930	
FRI	17	77568970	0.116500	
SAT	18	77685470	0.128760	
SUN	19	77814230	0.150402	turned off 196 to lewes
MON	20	77964632	0.099178	Monday 9:30 am
TUE	21	78063810	0.116660	
WED	22	78180470	0.116290	
THU	23	78296760	0.122430	
FRI	24	78419190	0.114340	
SAT	25	78533530	0.118080	
SUN	26	78651610	0.127210	
MON	27	78778820	0.118990	
TUE	28	78897810	0.175510	
WED	29	79073320	0.063620	turned on 196 to lewes
THU	30	79136940	0.112520	Wednesday 2:30 pm
		79249460		
TOTAL			3.806050	actual flow to Lewes
COUNT			30	2.427756 gal.
AVERAGE			0.126868	actual flow back to
				WolfeNeck 1.378294 gal.
MINIMUM			0.063620	
MAXIMUM			0.175510	



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different):
NAME: Howard Seymour Water Reclamation Plant
ADDRESS: 116 American Legion Road, Lewes, DE 19958 US
FACILITY: Howard Seymour Water Reclamation Plant
LOCATION: 116 American Legion Road, Lewes, DE 19958 US

DE0021512
PERMIT NUMBER: DE0021512
MONITORING PERIOD: FROM 2021 08 01 TO 2021 08 31
DISCHARGE NUMBER: 001
REPORT DESIGNATOR: A
DATA ENTRY COMPLETE: 9/28/2021
REPORT SUBMITTED BY: richardblack
STATUS OF SUBMISSION: Submitted for Signature

#	PARAMETER	NDI	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			UNITS	NO. EX. OF ANALYSIS	FREQUENCY	SAMPLE TYPE
			AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM				
1/1	Flow	MEASUREMENT	0.758	0.939	MG/Day	No Monitoring Required	No Monitoring Required	No Monitoring Required	--	0	99/99	RCOTOT
	Gross Effluent (50050)	PERMIT REQUIREMENT	No Limit Monitoring Req'd	No Limit Monitoring Req'd	MG/Day	No Monitoring Required	No Monitoring Required	No Monitoring Required	--	--	99/99	RCOTOT
1/2	Dissolved oxygen (DO)	SAMPLE MEASUREMENT				6.32			8.46	0	99/99	Imersion
	Gross Effluent (00300)	PERMIT REQUIREMENT	No Monitoring Required	No Monitoring Required	--	No Limit Monitoring Req'd	No Monitoring Required	No Limit Monitoring Req'd	mg/l	--	99/99	Imersion
1/3	pH	SAMPLE MEASUREMENT			--	7			8.1	0	01/01	Grab
	Gross Effluent (00400)	PERMIT REQUIREMENT	No Monitoring Required	No Monitoring Required	--	6	No Monitoring Required		Std pH Units	--	01/01	Grab
1/4	Enterococcus	SAMPLE MEASUREMENT			--		<1		<1	0	01/07	Grab
	Gross Effluent (31639)	PERMIT REQUIREMENT	No Monitoring Required	No Monitoring Required	--	No Monitoring Required	10	104	CFU/100 ML	--	01/07	Grab
1/5	BOD5	SAMPLE MEASUREMENT	<14	<17	lbs/Day		<2.4	<2.4	mg/l	0	01/07	Composite 24
	Gross Effluent (00310)	PERMIT REQUIREMENT	188	288	lbs/Day	No Monitoring Required	15	23	mg/l	--	01/07	Composite 24
1/6	BOD5	SAMPLE MEASUREMENT			--		188	188	mg/l	0	01/30	Composite 24
	Raw Sewage (00310)	PERMIT REQUIREMENT	No Monitoring Required	No Monitoring Required	--	No Monitoring Required	No Limit Monitoring Req'd	No Limit Monitoring Req'd	mg/l	--	01/30	Composite 24
1/7	TSS	SAMPLE MEASUREMENT	<5	<11	lbs/Day		<0.8	<2	mg/l	0	01/07	Composite 24
	Gross Effluent (00530)	PERMIT REQUIREMENT	188	288	lbs/Day	No Monitoring Required	15	23	mg/l	--	01/07	Composite 24

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: Richard Black
TYPED OR PRINTED: Richard Black
I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE NPDES DISCHARGE MONITORING REPORTING REQUIREMENTS. I AM A PERSON WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE, TRUTHFUL AND CORRECT, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

ATTACHED SIGNATURE RECEIPT FROM: [Signature]
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: [Signature]
TELEPHONE: 302.601.1944
DATE: Dec 1 9 24



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			AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
2/1	TSS	SAMPLE MEASUREMENT	-	No Monitoring Required	--	No Monitoring Required	172	172	0	01/30	Composite 24
	Raw Sewage (00530)	PERMIT REQUIREMENT	-	No Monitoring Required	--	No Monitoring Required	No Limit Monitoring Req'd	No Limit Monitoring Req'd	--	01/30	Composite 24
2/2	Total Nitrogen	SAMPLE MEASUREMENT	51.6	51.6	lbs/Day	No Monitoring Required	7.69	7.69	0	01/30	Composite 24
	Gross Effluent (00600)	PERMIT REQUIREMENT	-	No Limit Monitoring Req'd	lbs/Day	No Monitoring Required	8	No Limit Monitoring Req'd	--	01/30	Composite 24
2/3	Phosphorus, Total	SAMPLE MEASUREMENT	11	28.2	lbs/Day	No Monitoring Required	1.66	4.2	0	03/30	Composite 24
	Gross Effluent (00665)	PERMIT REQUIREMENT	-	No Limit Monitoring Req'd	lbs/Day	No Monitoring Required	2	No Limit Monitoring Req'd	--	01/30	Composite 24

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NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH THE INFORMATION SUBMITTED TO THE DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL. I AM AWARE THAT ANY PERSONS WHO MAKE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM ALSO AWARE THAT ANY PERSONS WHO MAKE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

ATTACH DIGITAL SIGNATURE RECEIPT FROM CROMERRI

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

YEAR MO DAY



LEWES BPW WWTP Biweekly InSight Report

Date: 10/6/2021

From: Erin Horocholyn - Suez Water Technologies & Solutions

To: Darrin Gordon, Austin Calaman, Inframark

cc: Matt Stapleford - Suez Water Technologies & Solutions

System Equipment

4 × ZW trains, each train consists of 4 - 500D cassettes, 120 modules x 370 sq. ft. per train (surface area 44,400 sq. ft. per train)

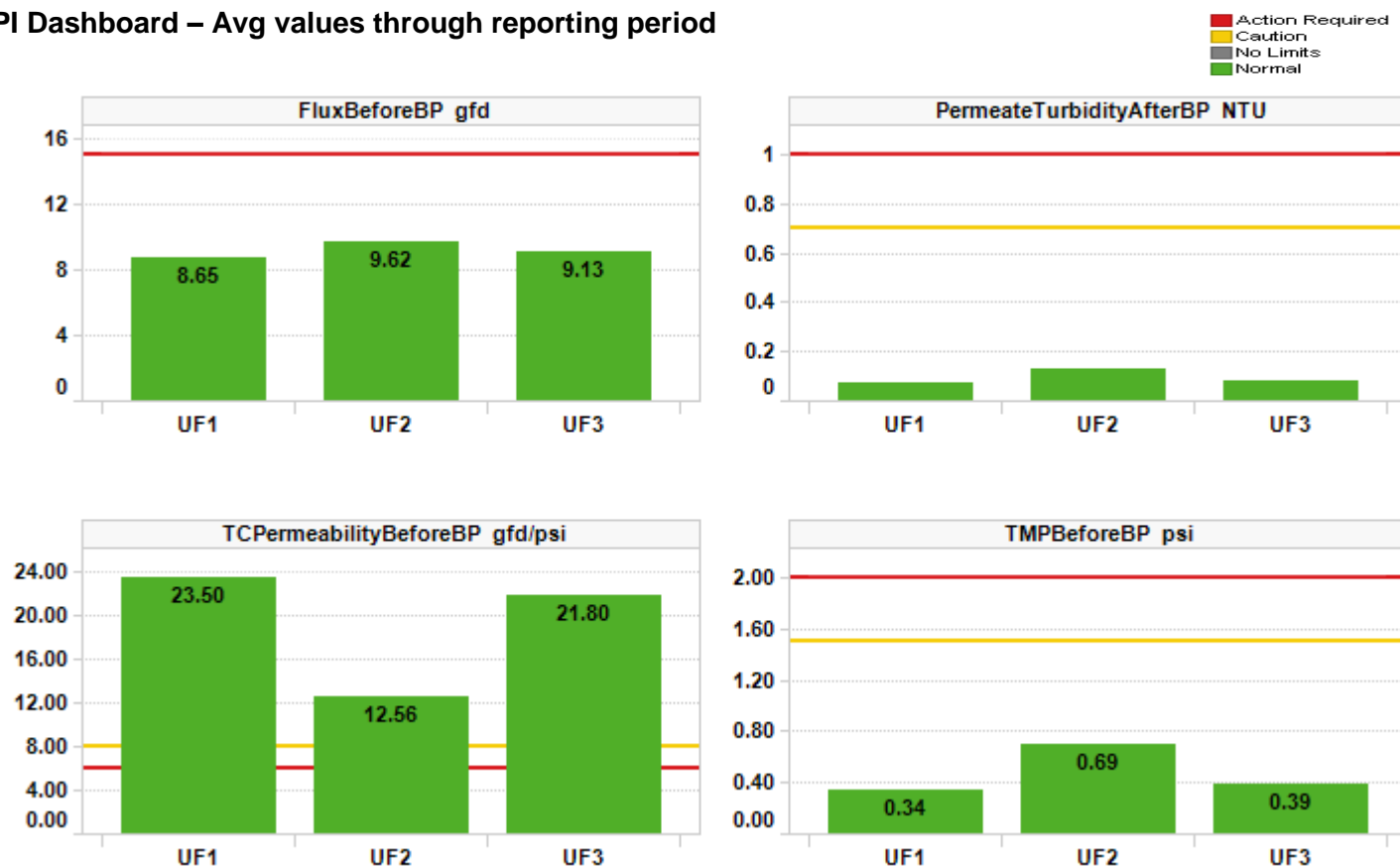
Replacement membranes installed Q1 2020 on trains UF3 and UF4

Cleaning Strategy

Recovery cleaning - 2 NaOCl @ 2000 ppm dose/1000 ppm soak per year, 1 Citric acid @ 2000 ppm per year

Maintenance cleaning - 1 NaOCl per week @ 200 ppm, 1 Citric acid per week @ 2000 ppm

KPI Dashboard – Avg values through reporting period





This report covers two reporting periods from Sept 8 – Oct 5. Averages in the text and tables refer only to the last reporting period of two weeks from Sept 22 – Oct 5.

Plant Summary

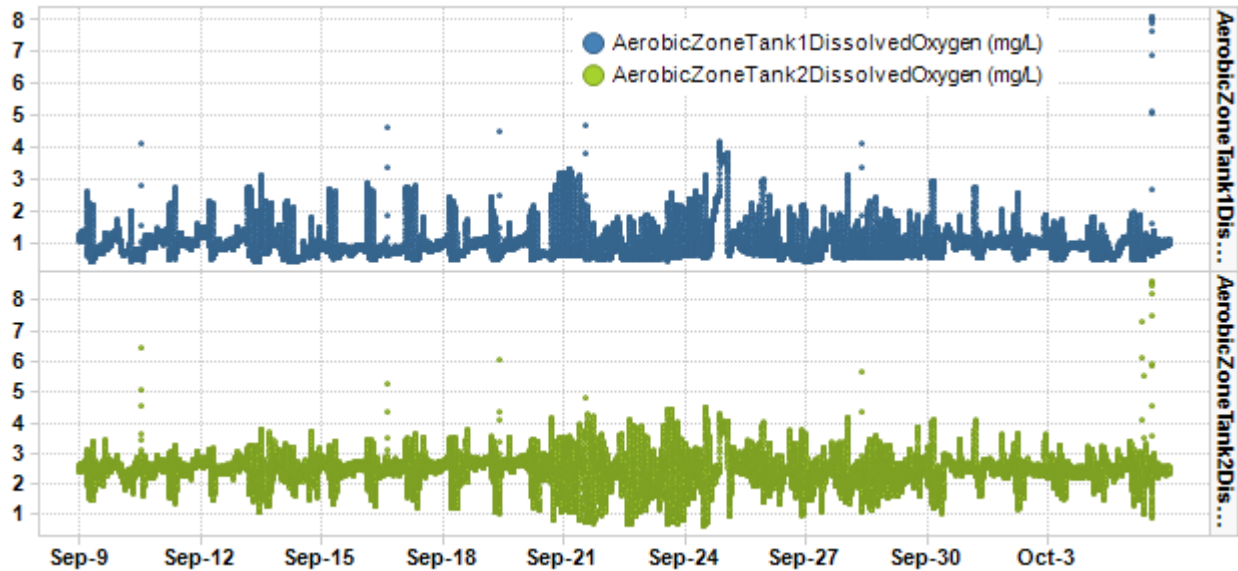
All trains had good KPI levels for permeability, TMP, and turbidity. All online trains are <1.0 psi for TMP and >8.0 gfd/psi for permeability which is excellent.

- Daily permeate production averaged 0.64 MGD. Permeate temperature averaged 77°F (-4°F). All online trains are in Backpulse with constant LEAP Hi aeration. UF4 was off in the past two weeks
- TMP BBP averaged <1.0 psi on all trains. Averages for UF1, 2, and 3 ranged 0.34 – 0.69 psi, spiking briefly during a period of high flux
- TC permeability BBP averages were excellent and >8 gfd/psi, ranging 21.8 – 23.5 gfd/psi on trains UF1 and UF3, and 12.6 gfd/psi on UF2
- Permeate turbidity ABP averages ranged from 0.07 – 0.13 NTU on all trains

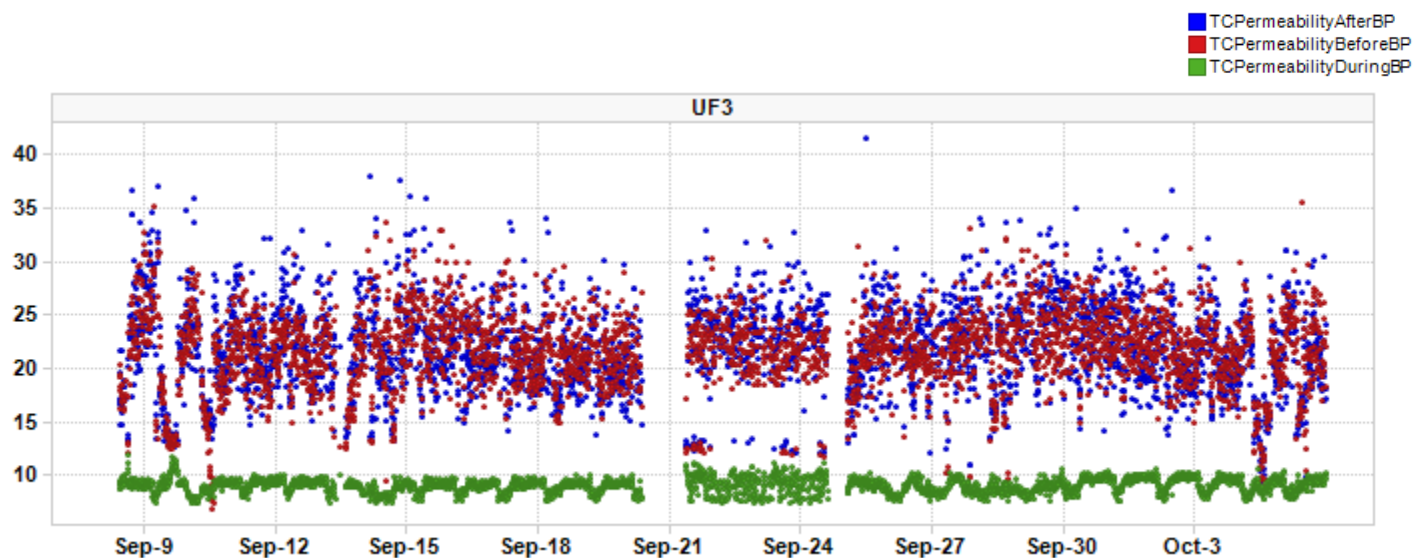
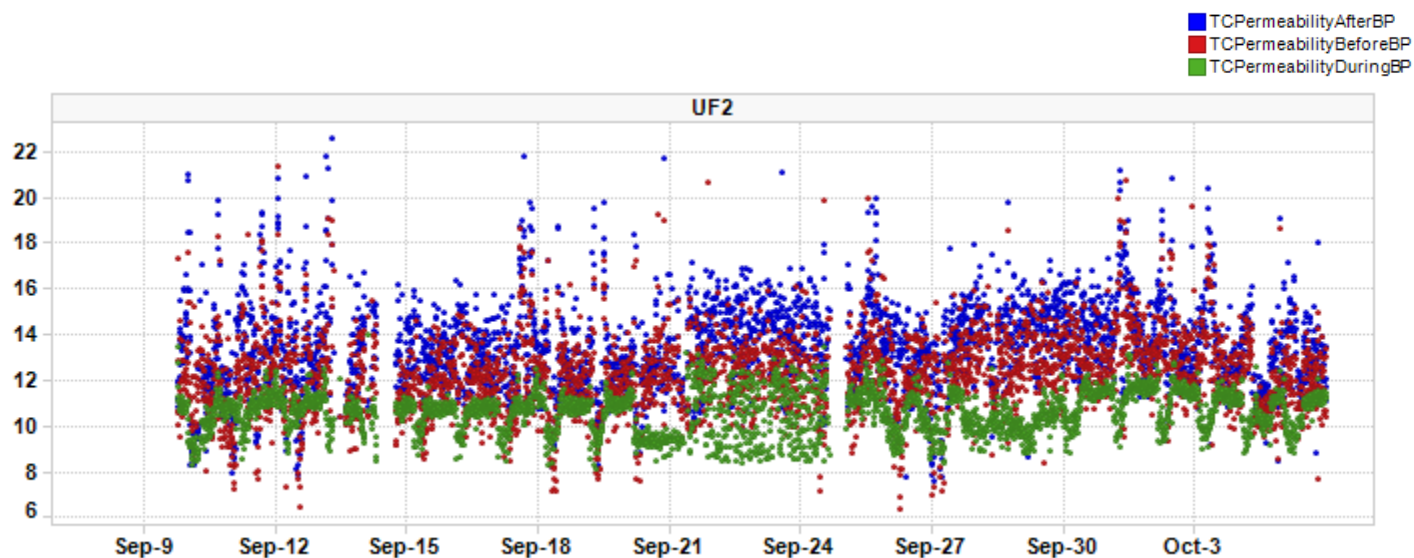
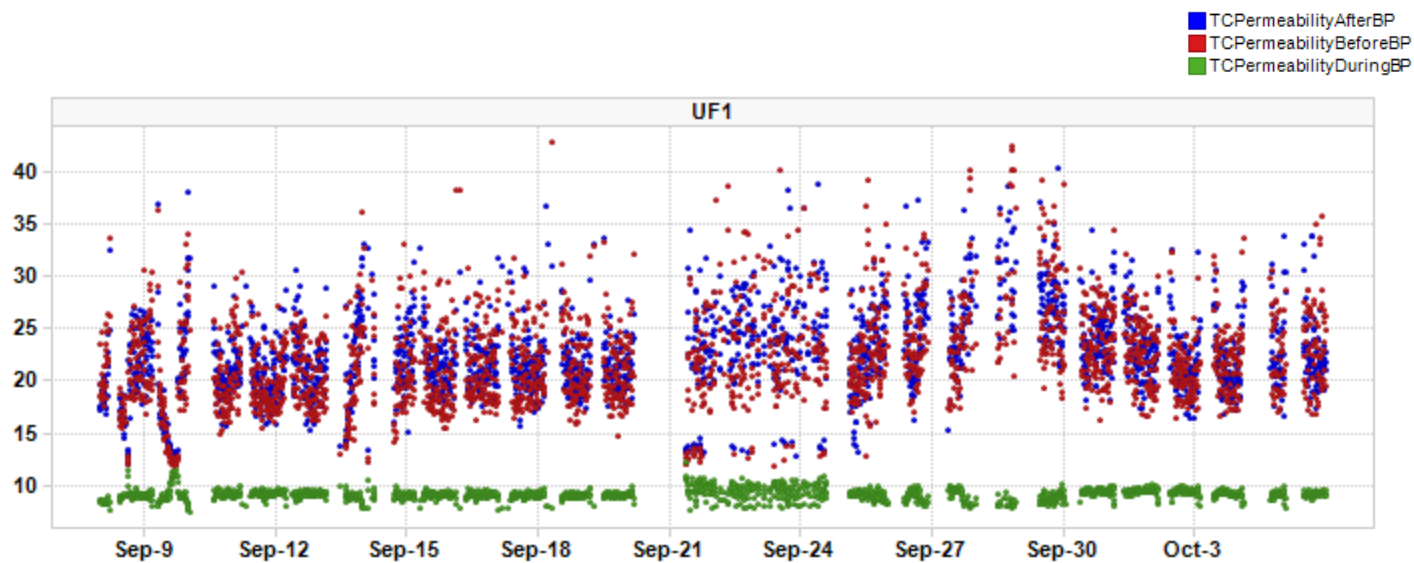
Table 1. Record of maintenance cleans (MCs) run between Sept 8 – Oct 5.

Train	UF1	UF2	UF3	UF4
# of Hypochlorite MCs	6	3	2	0
# of Citric Acid MCs	0	4	0	0

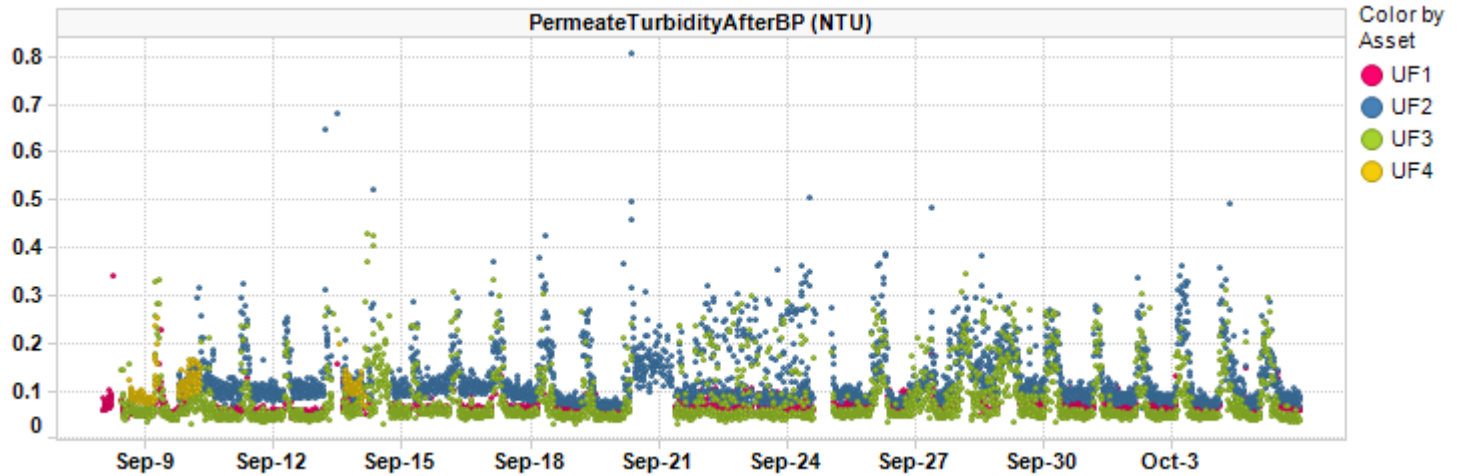
- Aerobic zone 1 dissolved oxygen averaged 1.03 ppm, while tank 2 averaged 2.47 mg/L. The pre-anoxic zone's DO averages were 0.64 mg/L in tank 1, and 1.59 mg/L in tank 2 which is high for feeding anoxic zones (ideally <0.5 mg/L for denitrification)



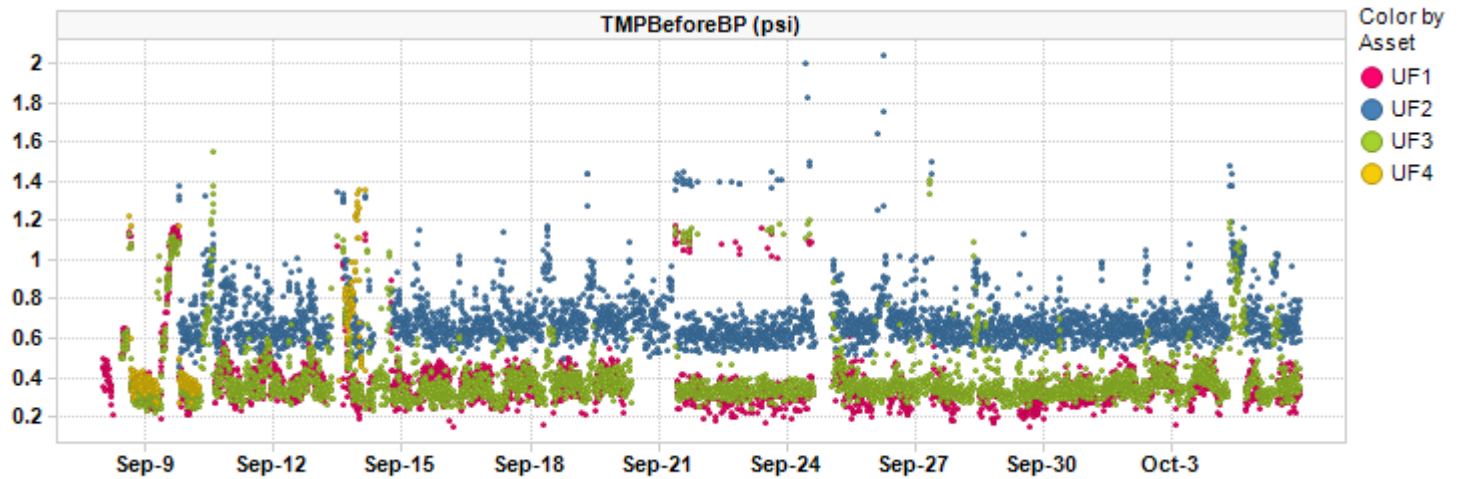
TC Permeability Trends By Train



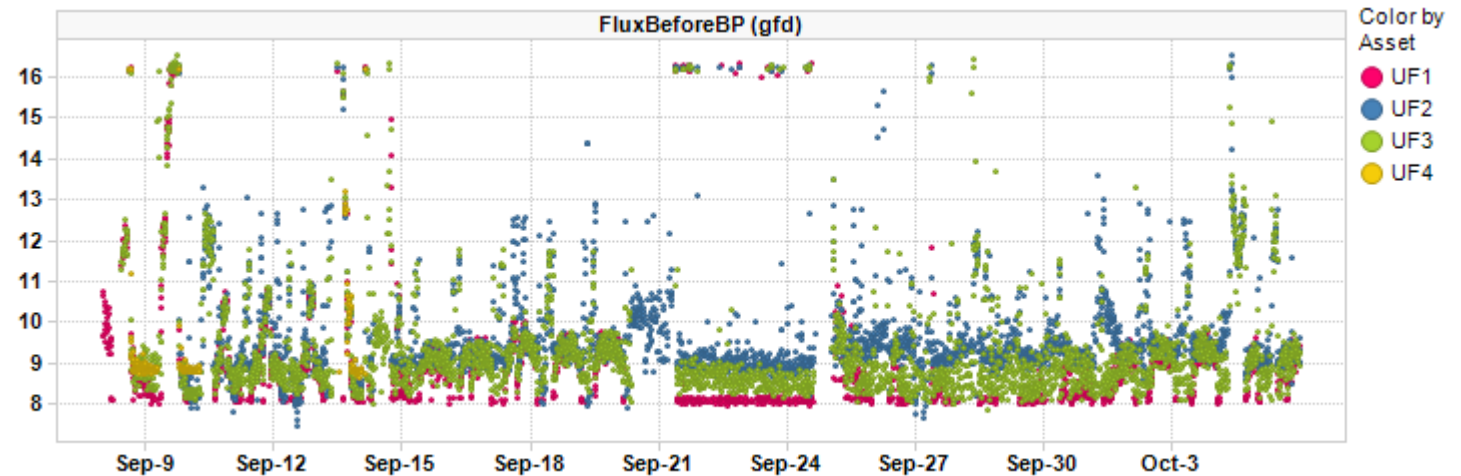
Permeate Turbidity Trend



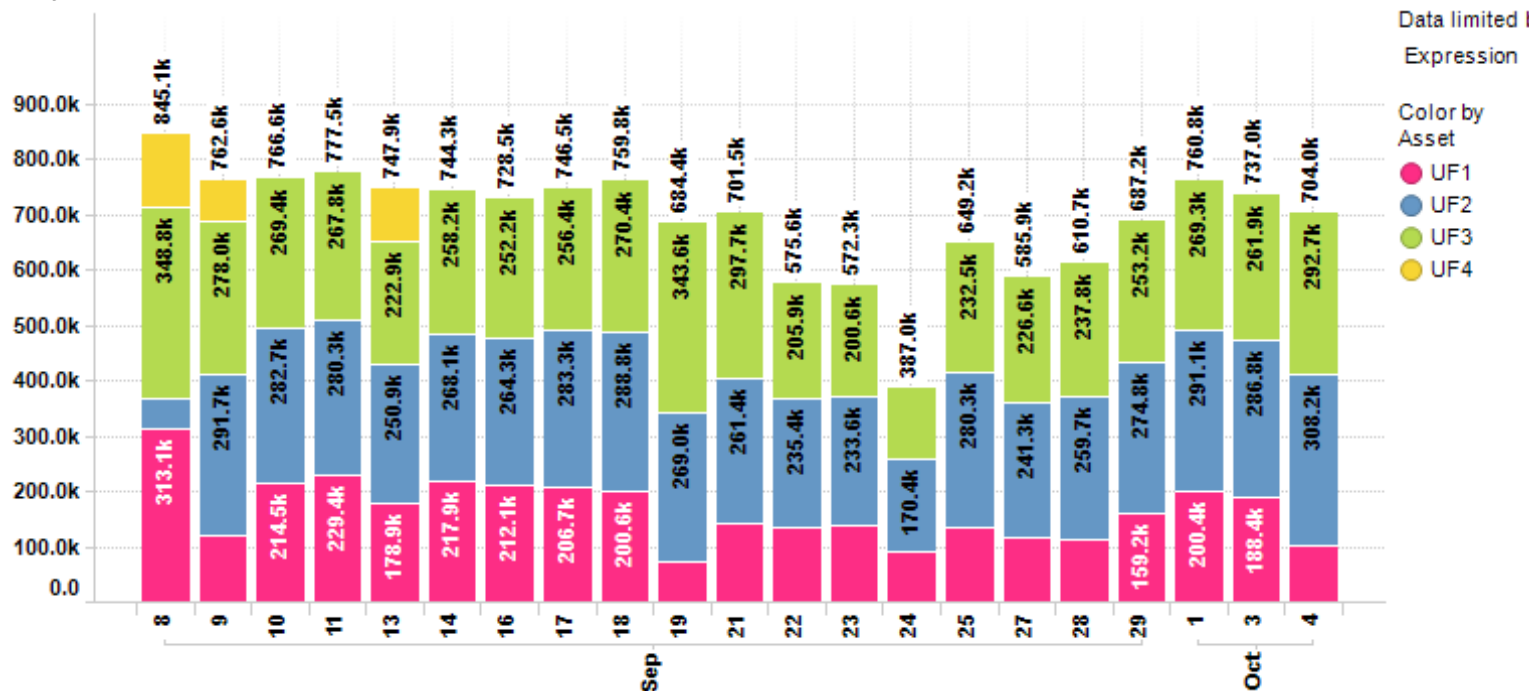
Before BPTMP Trend



Before BP Flux Trend



Daily Permeate Flow



Average Daily permeate flow from 9/22/2021 to 10/5/2021 is 635.0k gal with a maximum daily flow of 760.8k gal.

Asset Summary

KPI Parameters	Value/Change	UF1	UF2	UF3	UF4
FluxBeforeBP gfd	Value	8.65	9.62	9.13	
	Change	-9.31 %	-0.54 %	-5.38 %	
FluxDuringBP gfd	Value	18.80	18.55	18.56	
	Change	0.02 %	0.23 %	-0.10 %	
PermeateTurbidityAfterBP NTU	Value	0.07	0.13	0.08	
	Change	10.48 %	4.40 %	13.69 %	
TCPermeabilityBeforeBP gfd/psi	Value	23.50	12.56	21.80	
	Change	12.13 %	4.55 %	2.05 %	
TMPBeforeBP psi	Value	0.34	0.69	0.39	
	Change	-22.77 %	-2.44 %	-6.78 %	
TotalPermeateFlowDaily gal	Value	140.44k	259.80k	234.77k	0.00
	Change	-36.43 %	2.25 %	-18.70 %	0.00 %

Plant Summary

KPI Parameters	Value/Change	UF Plant
PermeateTemperature °F	Value	77.03
	Change	-3.11 %
TotalPermeateFlowDaily gal	Value	738.13k
	Change	-14.75 %

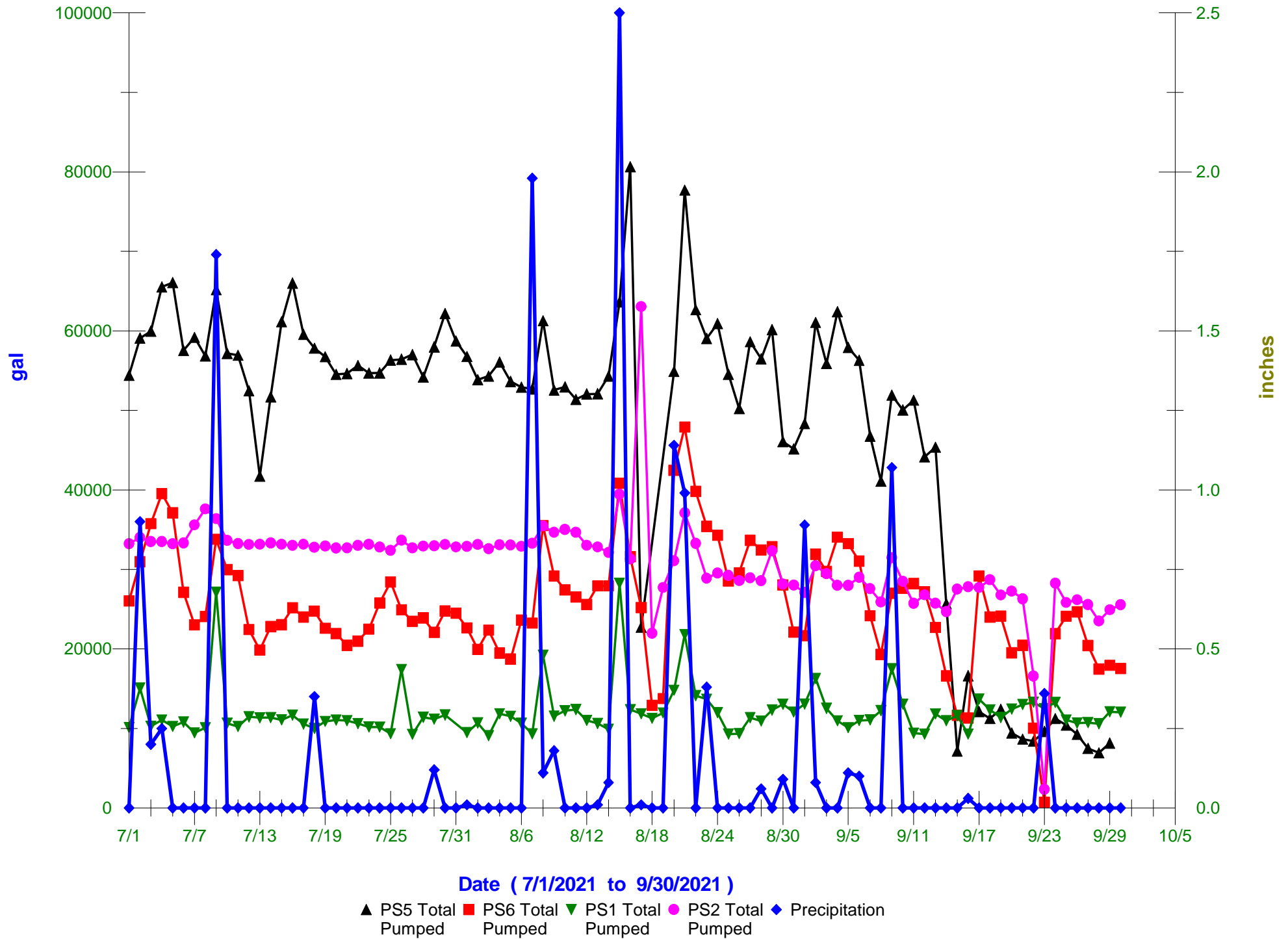


Contract Expiry Date : 08/11/2021

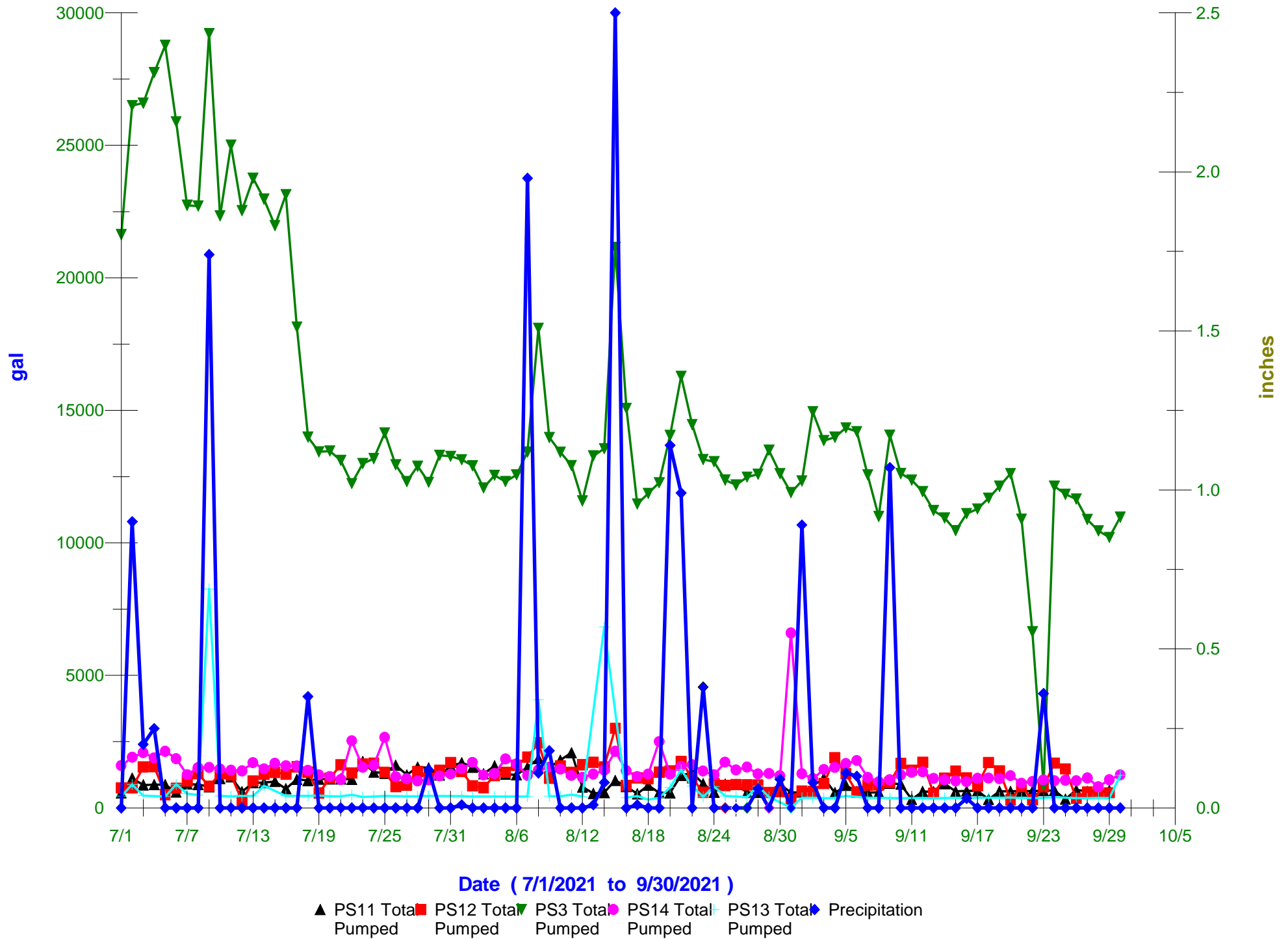
For InSight technical assistance please email insight.src@suez.com or please call technical support at 1 866 271 5425 or 905 469 7723 and follow the prompts, if you require after hours assistance please contact the 24/7 Emergency number provided in your plant documentation. This email is a summary of issues identified during a manual review of InSight data from the time period above. This review is an analysis of data that is logged by InSight and identifies key plant performance issues determined from this data. This data review was not focused on minor data issues but on identifying possible existing and/or upcoming critical operational issues.

This review was prepared by SUEZ Water Technologies & Solutions solely to assist water treatment plant owners and/or operators in analyzing and optimizing plant performance and is not intended to be used or relied upon for regulatory compliance or any other purpose. The content of this review is based in whole or in part on operation data obtained from the plant using InSight software. SUEZ Water Technologies & Solutions makes no representations or warranties as to the accuracy of the plant data utilized in the preparation of this review. SUEZ Water Technologies & Solutions accepts no liability for consequences or actions taken in whole or in part by any person on the basis of this review or its contents

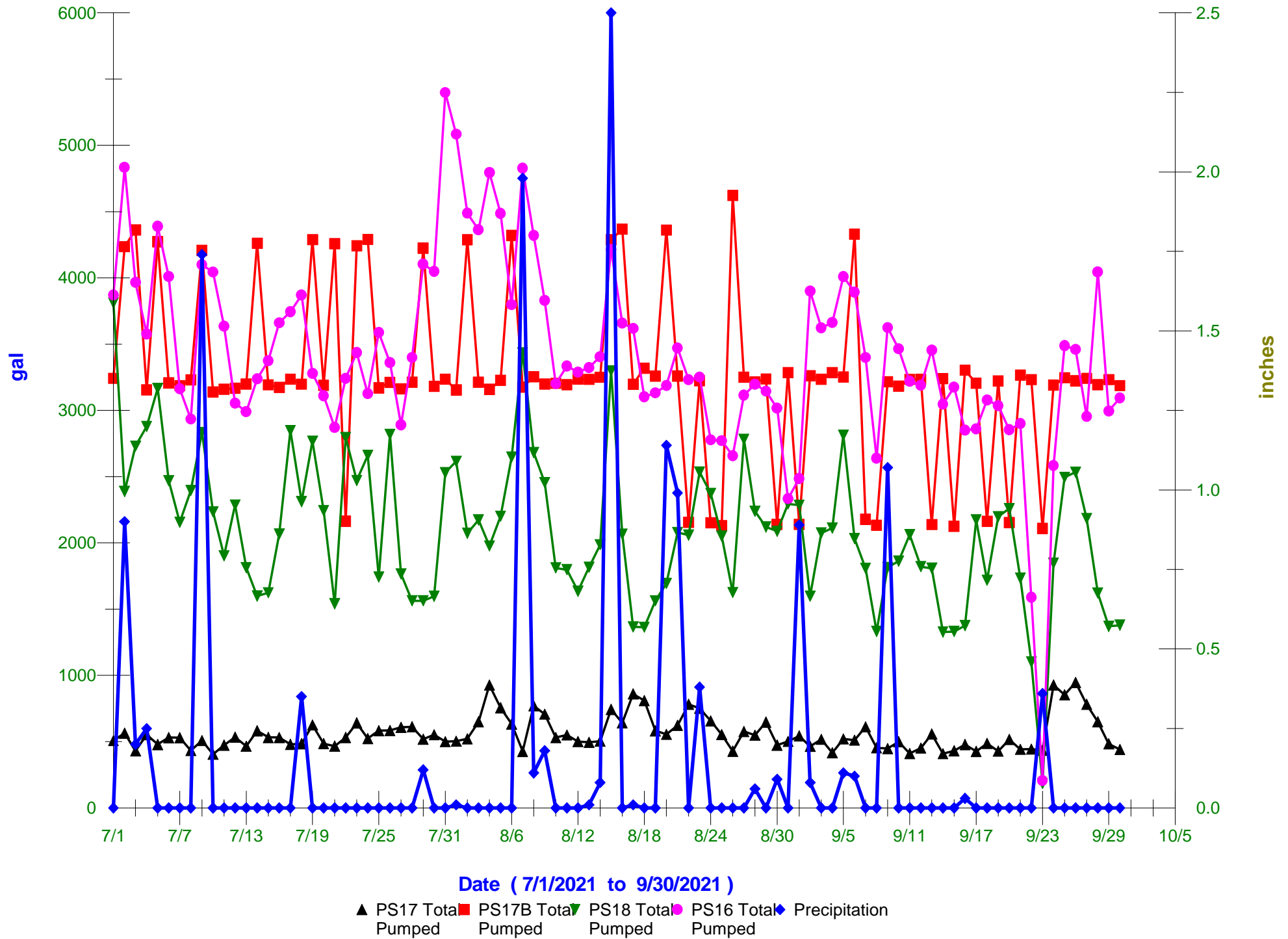
Data Over Time



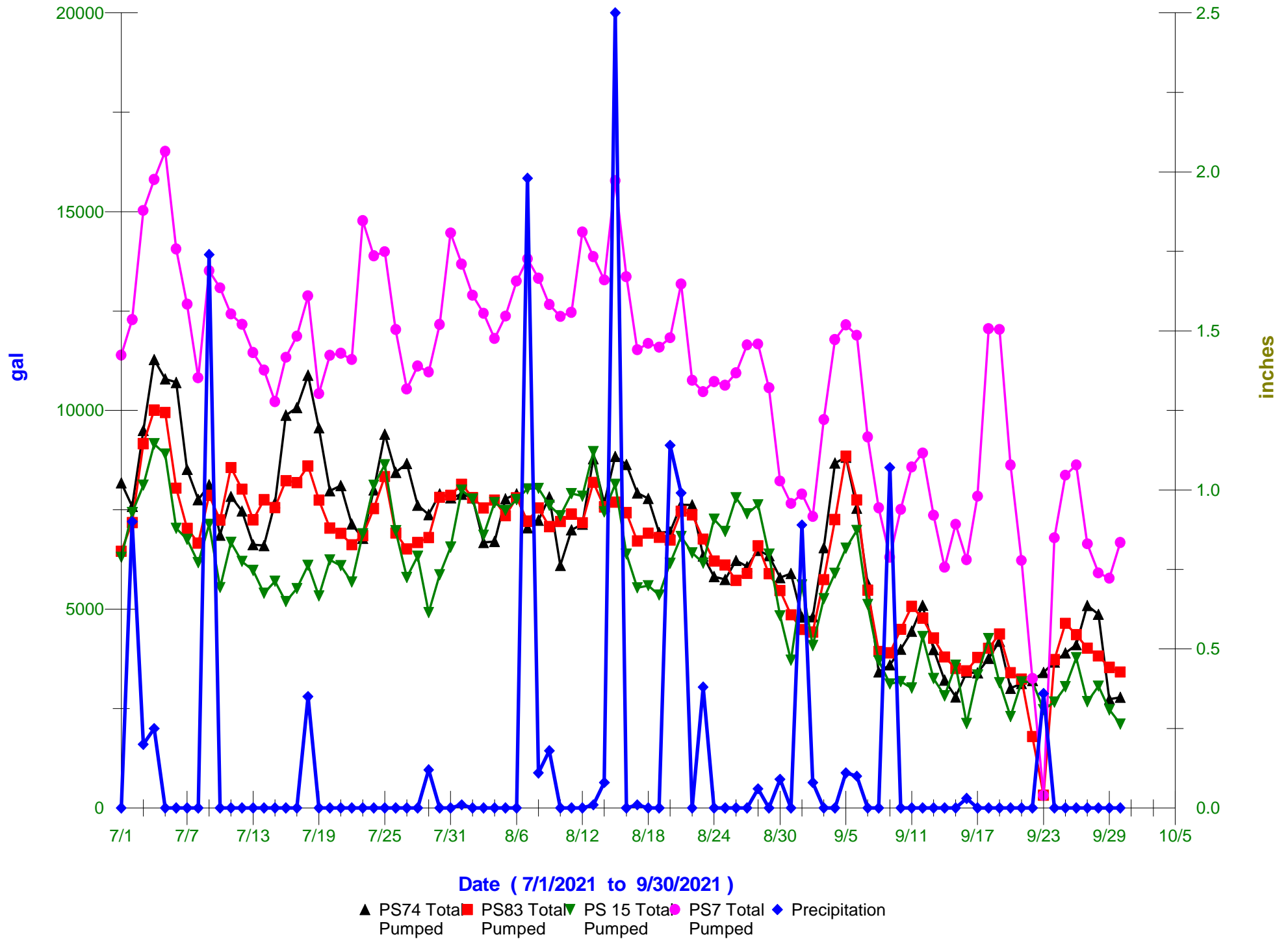
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